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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/518,050

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Stephen Palmer

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EXAMINER

CHIEN, LUCY P

ART UNIT

PAPER NUMBER

2871

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03/11/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/518,050	<b>Applicant(s)</b> PALMER, STEPHEN	
	<b>Examiner</b> LUCY P. CHIEN	<b>Art Unit</b> 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claim 1,2,6** are rejected under 35 U.S.C. 102(b) as being anticipated by Takeda et al (US 6078376).

*Regarding Claim 1.*

Takeda et al discloses (Fig. 11) a first electrode pattern (40R) arranged on a first essentially planar substrate a second electrode pattern (44R) arranged on a second essentially planar substrate wherein the first and second substrates are provided at a predetermined mutual distance (cell gap between two substrates shown in Fig. 9), and liquid crystal material (20) provided between the first and second substrates, that wherein the first and second electrode patterns each comprises a series of essentially parallel row electrodes wherein the series of row electrodes of the first electrode pattern are aligned at an angle of less than 45 degrees with the series of row electrodes of the second electrode pattern so as to create a high internal electrical resistance in series with any point in the liquid crystal optical shutter, whilst maintaining the overall external resistance of the optical shutter at a low level.

*Regarding Claim 2.*

Takeda et al discloses (Fig. 11) wherein the series of row electrodes of the first electrode pattern are aligned at an angle of less than 25 degrees, preferably less than

10 degrees, and most preferably essentially parallel with the series of row electrodes of the second electrode pattern.

Regarding Claim 6,

Takeda et al discloses (Fig. 11) wherein the row electrodes of the first electrode pattern are positioned so that they overlap the electrode gaps of the second electrode pattern and vice versa.

**Claim 1,3,7** are rejected under 35 U.S.C. 102(b) as being anticipated by Shiojiri Kogyo et al (JP2074925A)

Regarding Claim 1,

Shiojiri Kogyo et al discloses (Drawing 1 and Drawing 2) a first electrode pattern (1,2) arranged on a first essentially planar substrate a second electrode pattern (3,4) arranged on a second essentially planar substrate wherein the first and second substrates are provided at a predetermined mutual distance, and liquid crystal material (12) provided between the first and second substrates, that wherein the first and second electrode patterns each comprises a series of essentially parallel row electrodes wherein the series of row electrodes of the first electrode pattern are aligned at an angle of less than 45 degrees with the series of row electrodes of the second electrode pattern so as to create a high internal electrical resistance in series with any point in the liquid crystal optical shutter, whilst maintaining the overall external resistance of the optical shutter at a low level.

Regarding Claim 3,

Shiojiri Kogyo et al discloses (Drawing 1 and Drawing 2) wherein the row electrodes of at least one electrode pattern are electrically connected in parallel.

Regarding Claim 7,

Shiojiri Kogyo et al discloses (Drawing 1 and Drawing 2) wherein the row electrodes of the first electrode pattern are positioned so that they overlap the row electrodes of the second electrode pattern and vice versa.

**Claim 1,4,5,8-15** are rejected under 35 U.S.C. 102(b) as being anticipated by Hisatake et al (US 5434690).

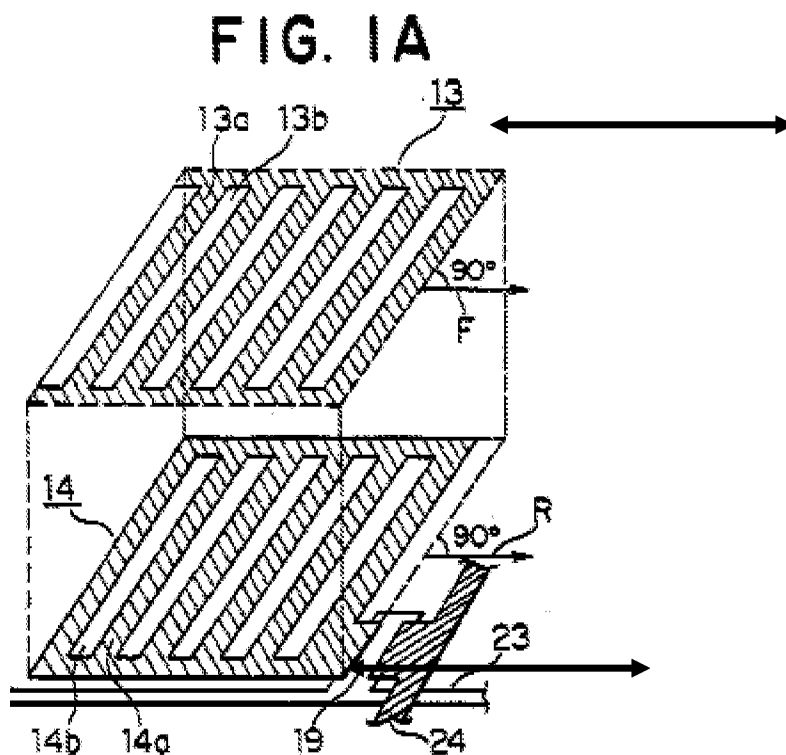
Regarding Claim 1,

Hisatake et al discloses (Fig. 1A or 24B) a first electrode pattern (13a) arranged on a first essentially planar substrate a second electrode pattern (14a) arranged on a second essentially planar substrate wherein the first and second substrates are provided at a predetermined mutual distance, and liquid crystal material provided between the first and second substrates, that wherein the first and second electrode patterns each comprises a series of essentially parallel row electrodes wherein the series of row electrodes of the first electrode pattern are aligned at an angle of less than 45 degrees with the series of row electrodes of the second electrode pattern so as to create a high internal electrical resistance in series with any point in the liquid crystal optical shutter, whilst maintaining the overall external resistance of the optical shutter at

a low level.

Regarding Claim 4.

Hisatake et al discloses (Fig. 1A) wherein each of the electrode patterns comprises a contact surface (shown below with arrows) electrically connecting the row electrodes in parallel.



Regarding Claim 5.

Hisatake et al discloses (Fig. 1A) wherein the contact surface of the first electrode pattern and the contact surface of the second electrode pattern are provided on opposite edges of the optical shutter.

Regarding Claim 8.

Hisatake et al discloses (Fig. 2) wherein the maximum distance (g) between the row electrodes of at least one of said electrode patterns is less than approximately twice the mutual distance (d) between the first and second substrates.

Regarding Claim 9.

Hisatake et al discloses (Column 4, rows 40-45) wherein the mutual distance (d) between the first and second substrates is between 4 micrometers and 40 micrometers, and more preferably between 10 micrometers and 30 micrometers.

Regarding Claim 10.

Hisatake et al disclose (column 13 rows 50-55) wherein the optical shutter is arranged to be operated with voltages of 60V or more which is an overlapping range, therefore Hisatake et al discloses the operating voltage to be between 50 volts and 300 volts, and more preferably between 100 volts and 200 volts. (see In re Aller, 105 USPQ 233.)

Regarding Claim 11.

Hisatake et al disclose (column 16 rows 30-35) wherein the optical shutter is arranged to be switched between a high light scattering state, and a high transparent state

Regarding Claim 12.

Hisatake et al disclose (column 23 rows 25-30) wherein the liquid crystal material comprises cholesteric liquid crystals.

Regarding Claim 13.

Hisatake et al discloses (Fig. 1A) wherein the row electrodes on at least one of the substrates consists at least in part of a series of geometrically linear lines, preferably with constant thickness.

Regarding Claim 14.

Hisatake et al discloses (Fig. 24B) wherein the row electrodes on at least one of the substrates consists at least in part of a series of rows that are non-linear.

Regarding Claim 15.

Hisatake et al discloses (Fig. 24B) wherein the row electrodes on at least one of the substrates consists at least in part of a series of zigzag lines, preferably with constant thickness.

***Response to Arguments***

Applicant's arguments filed 12/10/2007 have been fully considered but they are not persuasive.

Applicant's arguments that references Takeda et al, Shiojiri Kogyo et al, and Hisatake et al do not disclose the claimed "create a high internal electrical resistance in series with any point in the liquid crystal optical shutter, whilst maintaining the overall external resistance of the optical shutter at a low level" is not persuasive. ALL the references disclose the specified electrode pattern and all the references have the structure as claimed. Therefore they disclose a high internal electrical resistance while maintaining a low level external resistance. For example: Hisatake Figure 1A (shown on page 5 of this office action) shows high resistance between (13a) and (14a). Each (13a)



is connected together (where 13 is pointing to) in parallel. So, all the (13a's) in parallel together cause a low level resistance.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUCY P. CHIEN whose telephone number is (571)272-8579. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571)272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2871

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Lucy P Chien  
Examiner  
Art Unit 2871

/Andrew Schechter/  
Primary Examiner, Art Unit 2871